

MUSIC TREATISES AND ‘ARTES PARA TANGER’ IN PORTUGAL BEFORE THE 18TH CENTURY: AN OVERVIEW

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... que ninguno por scientifico que sea en qualquier arte o sciencia: puede mostrar ni enseñar enteramente: si no escribe; & haze muestra de aquello que en su facultad alcança.

(Mateus de Aranda, *Tractado de canto llano*, Lisbon, 1533)¹

Our perception of currents or patterns in musical theory and practical teaching in Portugal or by Portuguese musicians before the 18th century is necessarily dependent upon the relatively small number of treatises and other pedagogical material surviving as printed books and manuscripts. At the present count these comprise just two manuscripts from the later 15th century; about eight printed books specifically devoted to the teaching of chant (and modal concepts) and polyphony from the 16th and 17th centuries, beginning with Mateus de Aranda’s two treatises published in Lisbon in 1533 and 1535; a few books concerned more with ‘speculative’ musical issues – including two written by D. João IV – published in the mid- 17th century; and a small handful of manuals for instrumentalists (several being practical editions that include theoretical and teaching matter), beginning with Gonçalo de Baena’s *Arte novamente inventada para aprender a tanger* (Lisbon, 1540).² Other works are by a few Portuguese musicians who worked outside Portugal: in particular Vicente Lusitano’s treatise *Introductione fficissima*, published in Rome and Venice in 1553 and 1561 (with the latter edition translated into Portuguese in 1603), and Nicolau Doizi de Velasco’s *Nuevo modo de cifra para tañer la guitarra*, published in Naples in 1640.

However, it is clear that this group of around twenty five surviving works (with some printed books appearing in more than one edition over a period of time) represents but the tip of the proverbial iceberg with regard to musical and intellectual activity and production by Portuguese musicians and theorists during the early modern period. A survey of old inventories – especially the *Primeira parte do Index* of D. João IV famous music library published in 1649, and the list of additional music treatises for the royal library compiled by João IV’s librarian, João Álvares Frouvo³ – and investigation into available bio-bibliographical sources dating from before 1741 (the date of Barbosa Machado’s *Bibliotheca Lusitana*),⁴ reveals that there were perhaps forty other works falling into the general category of ‘Arte de’ or ‘Tratado de’, including

¹ *Prologo*, f. ii.

² In this essay, titles of existing prints and manuscripts are given in italics. Works that have not survived, but which are mentioned in inventories and other documentation, are placed in inverted commas.

³ Frouvo’s list of 172 treatises, reflecting an additional series not included in the 1649 *Index*, was made shortly before his death (in 1682) and passed on to the bibliographer Francisco da Cruz. See Nery 1990: 284–90. (Full bibliographical details of literature cited in this essay are included at the end of this essay.)

⁴ Extracts concerning musicians from primary literary sources are published in Rui Vieira Nery’s essential *A musica no ciclo da «Bibliotheca Lusitana»* (Lisbon, 1984; henceforth Nery 1984), and in his *Para a história do barroco musical português* (Lisbon, 1980).

several by well-known composers and theorists. It also appears that a few of the works now lost had once been intended for publication and in a very few cases there is datable documentary proof of printing licences granted by way of royal approval. This brings the total number of individual works that may be accounted for during this period to at least sixty-five or more. There is no doubt that the 1755 Lisbon earthquake and fire may be held responsible for the loss of the majority of these. A catalogue of both extant and non-surviving works dating from before c. 1700 arranged chronologically as far as possible comprises the Appendix. Both the Appendix and the following essay are divided into two parts: I, Music treatises; II, 'Artes para tanger' (instruction books for instrumentalists).

I. MUSIC TREATISES

Early Portuguese music theory

Judging from the style and content of a large number of surviving theoretical works, it is clear that the majority of authors had benefited from the reading and accumulation of knowledge from the mainstay of theoretical works circulating Europe from the earliest times: these included Pythagorean theories expounded in Boethius's *De institutione musica*, the precepts of Guido de Arezzo (associated especially with the 'tool' to enable sight singing – the so-called 'Guidonian hand') in c. 1030, the teachings of Johannes de Muris in his *Ars novae musicae* (c. 1319/20) and others of the time, and works of the leading Italian theorists of the renaissance who included Tinctoris, Spataro, Gaffurius, and others, besides the writings of Spanish theorists. Some of these imported treatises, and presumably their copies, are found in old inventories, and a number survive in archives in Portugal.⁵ It is probable that education in the 'art of music' with respect to both 'speculative' concepts and teaching about mode and plainchant had existed for a very long time in religious and other educative circles in Portugal, in particular the monasteries, the cathedrals, cathedral choir schools,⁶ and at university. Portugal may in fact be associated with one of the earliest universities in Europe to introduce music into the curriculum, with a chair in music founded as early as 1323 by the king, D. Denis, himself a practising musician. By 1400 in Lisbon, music formed one of the seven chairs at the university. Members of the nobility would likewise have benefited from such an education and it becomes clear from studying D. Duarte's regulations for the running of his chapel in the *Leal conselheiro* (written before 1438), for example, that he was well versed in musical matters and had probably been introduced to singing manuals.⁷ Before the 15th century, however, it is rare to encounter direct evidence for, or references to, specific documents or indeed individuals responsible for the dissemination of music teaching in Portugal. But a few isolated examples of musical diagrams stemming from a Mozarabic tradition have been found in copies of Isidore of Seville's *Etimologias* preserved from the famous teaching monasteries of Alcobaça (a Cistercian foundation) and Santa Cruz in Coimbra (an Augustian foundation). In addition, certain theoretical concepts (such as mnemonic formulae) have been found in early Portuguese sources that include a 14th-century processional now preserved in Chicago.⁸ Further important evidence consists of 15th-century theoretical manuscripts preserved in the libraries in Leiria and Evora – the latter dating from 1494.⁹ There is little doubt also that musico-theoretical concepts formed an integral part of discourse among the educated and cultured classes during at least the second half of the 15th century, as several poems

⁵ For example, a large number are preserved in the Biblioteca Geral at Coimbra University, many of which were probably formerly in the monastery library. See Pinho 1981: 87–94, with reference to a catalogue made in the mid- 18th century.

⁶ Especially at Evora from the first half of the 16th century onwards: see Alegria 1997: 37ff.

⁷ Nelson 2010.

⁸ See Huglo & Ferreira 2010: 74–5, and Ferreira 2008 (I): 56.

⁹ See Sharrer 2010, and Ferreira 2011 (chapter in this book).

using musical terminology included in the famous *Cancioneiro geral de Resende* testify, although this may partly have been stimulated by the circulation of northern-European repertoires and sources.¹⁰ The first important musician in Portugal to provide evidence of intellectual activity in music theory during the 15th century was Tristão da Silva, a poet-composer of Spanish origin (Tarazona), who worked at the court of D. Afonso V (r. 1438-81). He is especially associated with a book of songs, 'Amables de musica' (or 'Los amables de la musica'), now lost, which included a theoretical section. His discourses were significant enough to be cited in Bartolomeus Ramis de Pareia's *Musica practica* of 1482 (where they were opposed), and in other much later works.¹¹ (Poems by Tristão da Silva are also included in the *Cancioneiro geral*.)

Music treatises in the 16th century

By the late 15th and early 16th centuries, intellectual and cultural activity in Europe was to benefit significantly from developments in printing and book distribution. This had important repercussions in Portugal where the marked presence of northern (especially German) and Italian printers in Lisbon from the beginning of the 16th century paved the way for Portugal's own history of printing, giving scholars opportunities for the reproduction and dissemination of important works and indeed the reception of others through these agents. As many as fifty-four *livreiros* (primarily booksellers) were calculated in the list of 'Gente do fciros que há em Lizboa' in Christovão d'Oliveira's *Summario* of c. 1551-55, for example,¹² and by that time there were about half a dozen printers working in Lisbon.¹³ Our knowledge of the acquisition and circulation of books by way of these agents in early 16th-century Lisbon is fairly limited. But taking into consideration the nationalities of these early printers and the fact of Lisbon's importance as a trading post at this time, with links by land and sea to Spain, northern Europe, and the Italian states, it is inevitable that this would have become one of the most important centres for the reception of foreign printed books (besides sophisticated printing technologies), and hence international discourse. It is probable that a number of printed music books produced elsewhere in Europe would have reached Portugal this way and that there would have been contact between German printers in Lisbon and those who had settled in Spain, a number of whom may be associated with developments in the printing of liturgical books with music, and musical treatises. For example, there is important notice of one of the most successful German printers and agents in Seville, Jacobo Cromberger, who traded thousands of musical 'Artes' (among other books) all over the world, having been invited by D. Manuel I in 1508 to 'servir a estes Regnos'.¹⁴ However, Cromberger only apparently ever issued one publication in Portugal in 1521 (printed in Evora and Lisbon),¹⁵ but by the time that he came over, he had already printed an anonymous *Arte de canto llano* in Seville (c. 1512-15).¹⁶ The degree to which such traders may have influenced cultural exchange and endeavour globally is suggested by the astounding number of works passing through their hands. On his death in 1528, for instance, Cromberger's store of books in Seville had included over 2,600 musical 'Artes de',

¹⁰ See Ferreira 2008 (I): 57-8.

¹¹ In Portugal, these included Francisco Velez de Guevara's lost treatise written in Castilian, 'Musica speculativa y experiencia della' (or 'De la realidad, y experiencia de la musica'), and D. João IV's *Defensa de la musica moderna* (1649/50).

¹² Christovão d'Oliveira, *Summario em que breuemente se contem algumas coisas...* (Lisbon, after 1554), f. [43^v]. The names of a large number of booksellers and distributors from the 16th century as a whole is included in Naronha 1874: 33-5. However, of those working in the earlier 16th century (besides the printers) only about three are listed, one of which was of German origin.

¹³ These included Germão Galharde (active from c.1519 to 1560) who printed the musical treatises by Mateus de Aranda and Gonçalo de Baena's keyboard tablature.

¹⁴ Deslandes 1888: 12.

¹⁵ *O primeiro livro das ordenações* in five volumes. (See Anselmo 1926: no. 534.)

¹⁶ Norton 1978: no. 877. See also Knighton 2006: 228.

or treatises;¹⁷ it therefore seems likely that many of these types of books would have reached Portugal through the Lisbon *livreiros* and other book merchants at that time. The market for such books was inevitably primarily the clergy; but members of the nobility and students were of course intended consumers.

Unlike in Spain where the first theoretical book on music was printed as early as 1492 (Durán's *Lux bella*, in Seville), the first musical treatises to be issued from a printing press in Portugal appeared only in the early 1530s. These were Mateus de Aranda's *Tractado de canto llano* (1533) and *Tractado de canto mensurable* (1535), both published in Lisbon by the French printer Germão Galharde who had also previously printed the first known liturgical book to include musical (chant) notation – his Evora *Missale* of 1519.¹⁸ The almost complete lack of evidence for (or knowledge of) any other essays in musical thought and theory in Portugal between the late 15th century and the early 1530s, either in print or manuscript, is tantalizing. Yet given activity in leading musical (religious) centres primarily and at the university, we can probably estimate the degree to which musicians, the clergy, professors and students in all these places would have had access to prints or manuscript copies of theoretical works in one way or another. That learning the art of counterpoint was apparently a popular activity among the educated classes in Lisbon by the mid 16th century, for example, may be testified by a piece of information provided in Oliveira's *Summario*: here, it was reported that in addition to as many as fourteen 'escolas publicas' for dancing (not counting those individuals who taught privately in the houses of the nobility), there were apparently as many as thirteen 'escolas publicas de canto dorgão'.¹⁹ It is not certain how the term 'escola publica' in this document should be interpreted, nor whether such schools, or small academies, were independent of other established and larger institutions associated with choral foundations, for example.²⁰

Aranda's two treatises may in several aspects be seen as continuing from the Spanish printed theoretical tradition which began in the later 15th century. In his prologue Aranda claims that his training in 'musica speculativa' had been from Pedro Ciruelo, a professor at the university of Alcalá de Henares in central Spain known primarily for his *Cursos quattuor mathematica* (inclusive of a musical section) printed in Valladolid in 1516; whereas he had benefited from teaching in 'musica practica' when he was in Italy (but naming no masters as such). However, there are no particular connections to be found with known treatises or any other theoretical works on polyphonic music produced in Italy during an earlier period, and he shows certain independence from Tinctoris in his discussion on improvised counterpoint, and even original thinking, apparently.²¹ In his first treatise (on chant), Aranda demonstrates that he adhered more to traditional Pythagorean tuning principles, than to those expounded in Ramis de Pareia in 1482, and a little later by Martínez de Bizcargui in 1508, although such debates were no longer so relevant by that time.²² Aranda's work is not known to have been reissued, which may be indicative of only limited interest and application; but this is surprising, nevertheless. Following his time as chapelmaster in Evora (where he compiled his treatises), Aranda spent four years as professor of music at Coimbra University (1544-48). It is notable then that a slightly later successor to Aranda at Coimbra, Afonso Perea de Bernal (d. 1593), focused his attention on reissuing the popular Spanish treatise by Juan Martínez (*Arte de canto llano*), first printed in Spain in 1530 and 1532, in Portuguese translation (see below).

¹⁷ These are not individually identified as such, however. See Griffin 1988, Ros Fábregas 2001: 36, and Knighton 2006: 228-9. A proportion of these were probably in manuscript.

¹⁸ Anselmo 1926: no. 561. The colophon gives the date 1509; but it has been calculated that the date 1519 should have been written.

¹⁹ Oliveira *Summario*: f. [42].

²⁰ The use of the term 'escola publica' is also used in a much later document in connection with Manuel Mendes's activities as an important music teacher, although the precise meaning here is also unclear. (See Nery 1984: 168, citing a document in Barbosa Machado's *Bibliotheca Lusitana*).

²¹ Rice 2009: 67. See also Alvarenga & Ferreira forthcoming (2011).

²² Rice 2009: 63-4. For Aranda's *Arte de canto llano*, see also Ferreira *et al* 2010.

Musical examples in mensural notation in the earliest printed musical treatises in the Iberian peninsula were entered either by hand on printed staves, or by employing carved woodblocks. Developments in the printing of chant notation in early liturgical books, using a double-impression method (first staves, then musical notes) had, however, been made in the printing shops in Spain from the late 15th century onwards. As far as we know, books of vocal polyphonic music as such using the technology of ‘moveable type’ were not produced in Spain until 1551, and in Portugal not until as late as 1609, thus lagging far behind developments that had been initiated in Venice by Petrucci at the beginning of the 16th century. The musical examples in Aranda’s treatises were reproduced with printing technologies.

During the remainder of the 16th century in Portugal, and continuing well into the 17th, books on music theory continued broadly along the lines of treatises on either chant or on mensural polyphony and counterpoint. But between Aranda’s treatises and the next group written in Portugal appeared the work of Vicente ‘Lusitano’ in Rome: his *Introductione flissima* (Rome, 1553), which was reissued in two more editions in Venice, in 1558 and 1561, but also again fifty years later (in 1603) translated into Portuguese.²³ This may indicate certain national interest in the work, still at the turn of the 1600s. Lusitano is particularly associated with the famous debate he had with the Italian theorist Nicola Vicentino in 1551 concerning the identity of the genus of a musical work, which inspired the latter’s *L’antica musica ridotta alla moderna prattica* (Rome, 1555). The debate (championed by Lusitano) was judged by two papal singers – Ghiselin Danckerts and the Spaniard Bartolomé de Escobedo.

Dating from about the same time as Lusitano’s treatise was an ‘Arte de canto chão’ by João Rodrigues of 1560, which apparently took the theorist some forty years to complete. It may, therefore, have contained a solid amount of traditional theoretical material; but it also apparently discussed the then topical issue among Roman theorists concerning enharmonic genera, and showed how Rodrigues differed in his attitudes from other authors.²⁴ The work was allegedly approved in Rome by the chapelmaster and secretary to Pope Gregory XIII, Antonio Boccapadula, and by Palestrina, and was presumably intended for publication.²⁵ Whether it was the same work that was approved for printing just sixteen years later by D. Sebastião – an ‘Arte de musica da reformação e perfeição do canto chão e de toda a musica cantada e tangida’ – is not clear. (A ten-year privilege for the printing of the latter was granted in 1576.)²⁶ A copy of the 1560 manuscript was formerly preserved in the library of the theorist and collector Francisco de Valhadolid (d. 1700).²⁷

Of other musicians who are associated primarily for activity outside Portugal itself, the name of the famous humanist, writer and composer, Damião de Gois should also be mentioned in connection with his lost ‘Tratado da theorica da musica’ cited in bio-bibliographical sources. Its significance in Portuguese musical history and development of analytical thought may perhaps be measured both by the fact of Gois’s close acquaintance with the famous musician and theorist Heinrich Glarean, who included one of Gois’s motets in his *Dodecachordon* (Basle, 1547), and by his presumed contact with numerous musicians and established music printers in northern Europe and probably in Venice.

The instance of Mateus de Aranda at Evora evidently set a pattern for high quality teaching and musical activity there during the 16th century. The number of talented musicians, composers and theorists who followed in his footsteps at Evora Cathedral and who produced their own music books and treatises is notable. These included Francisco Velez (de Guevara), Cosme Delgado, and the most renowned master of the late 16th century, Manuel Mendes (d. 1605), founder of the so-called ‘Evora school’. Details

²³ See Nery 1984: 156–57. There is no mention of the translation having been printed.

²⁴ This is recorded in Francisco da Cruz’s bio-bibliographical description given in Nery 1984: 206.

²⁵ *Ibid.*

²⁶ Deslandes 1888: 97, from *Chancelaria de D. Sebastião*, Privil., IX, f. 98.

²⁷ Valhadolid’s *post-mortem* inventory of books included a number of treatises by Portuguese theorists. Information about these is found in documentation collected in Nery 1984, and shown in the Appendix. See also below.

of theoretical treatises (now lost) by each of these masters are recorded in available documentation that includes both bio-bibliographical literature and entries in the *Index* of João IV's music library: see Table I. There is also information that Francisco Velez's treatises on chant and mensural music – 'Tratado de canto chão de cimco cordas. & de camto dorguão e contrapunto' – had been given a five-year privilege for printing in March 1563 by D. Sebastião.²⁸ Only his speculative treatise written in Castilian is listed in the 1649 *Index* of João IV's music library.²⁹ It is possible that Cosme Delgado's three-part 'Manual de muzica', dedicated to Archduke Albert of Austria (viceroy of Portugal after 1580), was also intended for publication. A copy of Manuel Mendes's own 'Arte de canto chão', which presumably formerly existed only in manuscript, was included in João IV's library. Also among Evora musicians from this period who may be singled out for their pedagogical work is André de Escobar under whom Mendes worked during the time of the Cardinal D. Henrique. He was especially renowned for his playing skills on the charamela, or shawm, for which he wrote a tuition manual called 'Arte de musica para tanger o instrumento da charamelinha'.³⁰ It appears to be unique of its kind and falls into the more unusual category of 'Artes para tanger' in early modern Portugal (see below).

Table 1. Treatises by Evora musicians of the 16 th century	
Mateus de Aranda	<i>Arte de canto chão</i> (Lisbon, 1533) <i>Arte de canto mensurable</i> (Lisbon, 1535)
Francisco Velez (de Guevara)	'Tratado de canto chão de cimco cordas, & de camto dorguão e contrapunto' (two treatises) 'Musica speculativa y experiencia della'
Cosme Delgado	'Manual de Muzica'
André de Escobar	'Arte de musica para tanger o instrumento da charamelinha'
Manuel Mendes	'Arte de canto chão'

Other treatises by Portuguese musicians from around this time or later include João de Escobar's 'Arte de musica theorica & practica' (formerly in João IV's music library), and a number of books concerning speculative and practical music by Fr. João Pinheiro of the Convent of the Order of Christ in Tomar.³¹

There is little to indicate that there were any further significant developments in music theory in Portugal before the 17th century. As previously mentioned, Afonso Perea de Bernal, a successor of Aranda as music professor at Coimbra University,³² took the famous Spanish treatise of Juan Martínez first printed in Spain in 1530 (/ 1532) as the basis of his translation of the work into Portuguese – *Arte de canto chão*.³³ His first Portuguese edition is thought to have been printed in Coimbra in c. 1550, just a few years before his forty-year term as university professor (1553/4-1593). It was published posthumously in 1597

28 Deslandes 1888: 74.

29 'Musica speculativa...'. Velez de Guevara was probably a Spanish musician.

30 Escobar had previously been in India where he taught the instrument. After Evora, he was employed first at Coimbra Cathedral, and then at the university. See Nery 1984: 90-1.

31 Escobar's treatise is not mentioned in the *Bibliotheca Lustiana*, however, but a book of motets in 4^o size – possibly a set of partbooks published by Craesbeeck in Lisbon – is listed: see Nery 1984: 91. His period of activity may also be gauged from his *Auto* ('Fidalgo de Florencia') dedicated to D. Sebastião. (This *Auto* was apparently repeatedly reprinted.) For Pinheiro's work, see Nery 1984:194.

32 Aranda's immediate successor was Pedro Trigueiros (Viterbo 1932: 548).

33 The 1530 edition was printed by Juan Cromberger in Seville; the 1532 edition in Alcalá de Henares. It has been suggested that Perea de Bernal was in fact also a Spaniard. See Ribeira 1963: 27.

by a member of the famous family of Coimbra printers, António de Barreira, and reprinted in 1603 by Manuel de Araújo.³⁴ This work was again revised and expanded three more times up to 1625, this time by a member of the clergy at Coimbra Cathedral, a priest and *sochantre* called António Cordeiro, presumably because of its continued use and application. It was printed by the Coimbra printer Nicolau Carvalho.

Music treatises in the 17th century

At least twice the number of theoretical treatises written during the 17th century as those dating from before the late 16th century may be listed, with the majority (the non-extant works) appearing in the extensive bio-bibliographical documentation available concerning musicians of the later period, and old library inventories.³⁵ Of surviving printed books, there is an important nucleus of at least seven published between 1618 and 1688, beginning with Pedro Thalesio's *Arte de canto chão* (Coimbra, 1618, with a second printing in 1628), and António Fernandes's *Arte de musica de canto dorgam, e canto cham* (Lisbon, 1626). But in addition, and only recently identified, is an extremely important manuscript copy of Fernandes's treatise in a version dated to 1625, which is bound with two other of his tracts of which one was only previously known through an entry in D. João IV's Index and in bio-bibliographical documentation that includes Barbosa Machado's *Bibliotheca Lusitana*. This manuscript is preserved in the Museu-Biblioteca dos Condes de Castro Guimarães in Cascais.³⁶

Beginning with Pedro Thalesio's *Arte de canto chão*, a large percentage of treatises continue in the tradition of 'Artes' of chant and polyphony; but a significant proportion may also be classed within the category of 'musica speculativa', with the latter including the famous printed works of D. João IV and João Álvares Frouvo. Other essays, now unfortunately lost, may only more vaguely be classed as 'theoretical' owing to their non-specific titles such as 'Tratado de musica' (Estêvão de Brito), 'Theorica da musica' (Frouvo), and 'opusculos pertencentes á theorica da musica' by the historian and writer Leoniz de Pina e Mendonça.³⁷ Among those who worked as far abroad as India and the Far East was the Coimbra educated Jesuit, Tomás Pereira, who is recorded for a substantial theoretical treatise (c. 1680-1707) which was translated into Manchu at the behest of the Emperor Kangxi.

Thalesio's *Arte de canto chão* (1618) is the first in early modern Portugal to demonstrate a marked interest in, and knowledge of, the works of a large group of international theorists and composers. On a general level, the work was intended to be 'useful and necessary' for the clergy, and includes a wealth of information on chant and chant performance. Thalesio was professor of music at Coimbra University (shortly after Afonso Perea de Bernal) when he wrote his work, and his treatise departs to some degree from the popular *Arte de canto llano* by Juan Martínez translated by his predecessor, although there are some elements in common with regard to the definition of basic modal concepts, chant and its notation. (The latter work had been again revised and expanded in Coimbra during this period by another Coimbra theorist: see above.) Judging from the content and the wide range of authorities cited (St Augustine, Durán, Tinctoris, Gaffurius, Guido Aretino, Zarlino and others), including those whom he criticized for their views on modal propriety (Spanish theorists that included Podio and Juan Martínez, for example),³⁸ there is no doubt of the elevated level of academic thought encouraged at the university at that time. Of composers, he refers particularly to Pierre de la Rue, Josquin, and to the 16th century royal Portuguese court musician António Carreira. He had also prepared a companion treatise on mensural polyphony for publication

³⁴ See Ribeira 1963: 25-7. Martínez's treatise was also reissued numerous times in Spain.

³⁵ Principally documentation published in Nery 1984 and Nery 1990.

³⁶ See details in Appendix. I wish to thank Assunção Júdice for kindly allowing me to consult the manuscript in the Cascais museum.

³⁷ For details of historical and other works by this prolific writer, see Nery 1984: 169-74.

³⁸ He also criticizes a point in the Bernal-Martínez treatise on at least one occasion.

— a ‘Compendio de canto de órgão, contrapunto, composição, fugas & outras cousas’ — that was never published. It has been suggested that this was in part due to the fact that Coimbra printers at that time did not have the necessary technology available to print the musical examples (in mensural notation),³⁹ although a tradition of using woodblocks for entering musical examples was known and effectively used before that era, and more advanced developments were already known in Lisbon through the work of Pedro Craesbeeck.

By the early 17th century, Craesbeeck, a former pupil of Christophe Plantin in Antwerp, had introduced the techniques for producing books of printed polyphony using ‘moveable type’ in his Lisbon workshop. This development was potentially of enormous benefit at least to Lisbon composers, and some thirteen polyphonic works were printed in Lisbon during the reigns of Philips II and III (of Portugal) and D. João IV. As far as it is known, Craesbeeck’s first publications of vocal polyphonic music were two books of masses by the royal chapel chapelmaster Francisco Garro (a Spaniard) in 1609. Then between 1613 and 1648 he and his successor Laurenço produced a series of books of polyphonic music (masses, motets, Magnificat settings and other music) by Manuel Cardoso, Filipe de Magalhães (Garro’s successor),⁴⁰ the royal chapel organist Manuel Rodrigues Coelho,⁴¹ and two more composers of vocal polyphony: Manoel de Pinho and João de Escobar.⁴² Duarte Lobo, on the other hand, had several music books printed (at his own expense) in the highly successful Plantin workshops in Antwerp, beginning in 1602.⁴³

It is partly in the light of this development in music printing techniques that the significance of António Fernandes’s treatise *Arte de musica de canto dorgam, e canto cham* (Lisbon, 1626) is widely acknowledged. Fernandes’s work was printed by Pedro Craesbeeck and is often signalled in historical accounts as the first printed music treatise written in the Portuguese language which deals with polyphonic music and which includes musical examples of mensural music and chant printed using moveable type. This book is divided into three separate parts: counterpoint and musical notation; chant (and mode); and proportions in mensural music. Like Thalesio, Fernandes demonstrates close knowledge of many other theorists — in particular Zarlino (but perhaps by way of Cerone’s famous *El Melopeo y Maestro* published in Naples in 1613). A pupil of Duarte Lobo, to whom the print was dedicated, Fernandes became one of the most revered musicians and teachers of the 17th century. As already mentioned, works by Fernandes in addition to the 1626 print have been recovered in the Cascais manuscript. Here, not only is there a copy of what appears to be an original version of the 1626 print (dated 1625),⁴⁴ and which includes many interesting and distinguishing features, but also, there is a copy of his previously thought lost treatise *Especulação de Segredos da Musica* and a further *Regra universal para se conhecer qualquer Cantoria*, which also includes advice for organists. The *Especulação de Segredos* was given a fuller title in most bio-bibliographical documents, indicating that the work was concerned with ‘cauzas e porques’ of music; in another document it was referred to merely as ‘Liuro dos porques da muzica’.⁴⁵ A copy was also kept in D. João IV’s music library. Fernandes was clearly a great musical thinker and prolific writer, and three other works by him were apparently listed in the *post-mortem* inventory of Francisco de Valhadolid: a ‘Mappa Universal’; a ‘Theorica do manicordio’ (a keyboard

39 This was suggested by Barbosa Machado. See Nery 1984: 227.

40 Cardoso: Magnificat settings (1613), three books of masses (1625 and 1636), and his *Livro de varios motetes* (1648). Magalhães: a book of masses and a book of Magnificat settings (1631 and 1636).

41 His *Flores de musica* for organ (1620): see below.

42 A two-part set of Christmas villancicos by Pinho (1615 & 1618), and a book of motets by Escobar (1620). The probable printing of these books is indicated in the *Bibliotheca Lusitana*: see Nery 184: 194 and 91, and above.

43 His *Opusula* (1602), a book of Magnificat settings (1621), and two books of masses (1621 and 1639).

44 The date ‘1625’ appears on the first folio which imitates a printed title page. At the bottom, it is written: ‘Em Lisboa por Manoel / da Costa / Anno de 1625’.

45 Interestingly, the latter title given by Baretto resonates with the title of André Lorente’s famous treatise of 1672, *El porque de la música*, printed in Alcalá de Henares. Heading each of the folios in the existing copy of Fernandes’s *Especulação* is the inscription ‘Causas e Porques da musica’.

treatise); and further ‘Arte de musica de canto de orgão’, probably written in c. 1680, many decades after his printed book. Fernandes is recorded as saying that he wrote the latter treatise at the age of 85 ‘in order to avoid idleness’.⁴⁶ It was compiled at around the same period as the printed treatises of Manuel Nunes da Silva and Mathias de Sousa Villa-Lobos (see below).

As indicated in the above, the greater proportion of musicians and theorists who wrote treatises were either attached to cathedrals and other prominent choral institutions throughout Portugal, such as Evora and Lisbon Cathedrals and the Augustinian monastery of Santa Cruz in Coimbra, or were at one time university professors in Coimbra. Many were known as great *mestres* and teachers in their own right; others were known as pupils of leading musicians and teachers. It is surprising, perhaps, that the great teacher Duarte Lobo, himself a pupil of the Manuel Mendes at Evora, and whose numerous successful Lisbon pupils had included such as António Fernandes and João Álvares Frouvo, did not apparently leave his own ‘Arte’. Fernandes’s *Arte* was not only dedicated to Lobo, but it also included a remarkable diagram of an ‘Aruore Sonora’ – showing how all elements and types of music and sound were linked – topped by a portrait of the master. One of the composer António Pinheiro’s⁴⁷ pupils, originally a *moço* at Evora Cathedral, was Diogo Dias de Villena (Vilhena) who, in addition to much vocal music, left an ‘Arte de canto cham para principi-antes’, a copy of which is listed in D. João IV’s library *Index*. Indirectly linked to the Evora school also was the composer Estêvão de Brito, a pupil of Magalhães, who made his career as chapelmaster in Spain (Badajoz, then Málaga). He is recorded for at least one treatise in both the royal library *Index* and Frouvo’s list.

Among the canons at Santa Cruz in Coimbra who left several treatises and teaching manuals between them were Augustinho da Cruz and Gaspar da Cruz. The former became chapelmaster at S. Vicente de Fora in Lisbon, sometime during the first decade of the 17th century; the latter, chapelmaster at the Coimbra convent in the second half of the 17th century where he was regarded as a great teacher. Both are recorded for having written ‘Artes’ of chant and polyphony that were once preserved in the library of Francisco de Valhadolid. Judging from the title given to Gaspar da Cruz’s chant treatise, ‘...recopilada de varios authores’ (or ‘mestres’), it is likely that it was based on an earlier tradition of theoretical works. Augustinho da Cruz’s own chant and polyphonic treatises are dated to about 1632, and were dedicated to the future D. João IV who valued them highly.⁴⁸ He was especially renowned as an excellent instrumental player, and also left treatises for the organ and the ‘rebec’.⁴⁹ Musicians at Santa Cruz were thoroughly schooled in counterpoint and composition, and a number of manuscripts with their working exercises is preserved at the Biblioteca Geral in Coimbra; some of these works may also have been used in performance.⁵⁰ One of these musicians, D. João de Santa Maria (d. 1654), who later also became chapelmaster at S. Vicente de Fora in Lisbon, is recorded for three books of counterpoint that he offered to D. João IV.⁵¹

Our knowledge of the extent of treatises circulating in Portugal is undoubtedly greatly enhanced by the royal library collections of D. João IV recorded in the *Primeira parte do Index* (Paulo Craesbeeck, 1649). This source, combined with Frouvo’s list of ‘Scriptores da musica’, and the references to theoretical works recorded in bio-bibliographical literature and elsewhere, probably provides a reasonably accurate record of academic and practical music activity during the period under review. It is probable then that D. João IV became acquainted with a large number of theoretical works and treatises during his lifetime and

⁴⁶ See Nery 1984: 93-4.

⁴⁷ Pinheiro was chapelmaster for the Duke of Braganza (D. Teodósio II) in Vila Viçosa.

⁴⁸ See Nery 1984: 81-3.

⁴⁹ He also left a few items of organ music which are recorded in two northern Portuguese manuscripts (PortoBPM MM 43 and BragaBP M 964). The term ‘rebec’ may in fact have been used to denote a small violin.

⁵⁰ See Nery & Castro 1991: 65. Similar to this type of work is the manuscript in PortoBPM (MM 41), *Tenção de João da Costa de Lisboa*, which has often mistakenly been categorized as an organ source only.

⁵¹ Nery 1984: 209-10. It is possible that he composed one of the *Artes de Contraponto* in CoimbraBCU MM 236. (See also Pinho 1981: 190.)

that he, like his friend Frouvo, assiduously studied a number of key works necessary for their own development and endeavours in ‘speculative’ writing, in addition, of course, to a plethora of musical compositions. João IV is particularly associated with two theoretical publications written in Spanish, but which were reissued shortly afterwards in Italian translation: the *Defensa de la musica moderna contra la errada opinion del Obispo Cyrilo Franco* (1649/50), and the *Respuestas a las dudas que se pusieron a la Missa Panis quem ego dabo del Palestrina* (1654/55). The first was inspired by his disagreement with a letter written by the Italian bishop Cyrilo Franco about a hundred years earlier (and published in 1567), which negated the expressive power of vocal polyphony, favouring instead the revival of monody for its greater affect.⁵² João IV’s ‘defence’ demonstrates a sure grounding in music theory (from Boethius to Zarlino) and in polyphonic music by such masters as Palestrina and Victoria, Ghersem, Rogier and many others. His *Respuestas* was written (again ‘in defence’) justifying the modal ‘purity’ of a particular Palestrina polyphonic mass. Both works can be seen as a testimony to the king’s musical interests, especially with regard to its use and appropriateness in liturgical contexts. Two other treatises in manuscript by João IV, now lost, are mentioned: a ‘Concordancia da Musica e passos della collegida dos mayores professores desta arte’, and a ‘Principios da musica, quem forão seus primeiros authores, e os progresos, que teve’.⁵³ The titles of each would appear also to be indicative of the king’s reference and recourse to many different musical and theoretical works.

João Álvares Frouvo, a pupil of Duarte Lobo, and royal librarian, is especially remembered for his treatise *Discursos sobre a perfeiçam do diathesaron* (Lisbon, 1662), a work that had been commissioned by the king and which must have been complete before 1649: a copy (presumably in manuscript) is listed in the *Index* to the royal music library.⁵⁴ From the chronological point of view, therefore, it is interesting that it also refers to João IV’s *Defensa* of c. 1649 (which it praises).⁵⁵ As to be expected, the work demonstrates a thorough knowledge of a large number of theorists, from Boethius to various noted Italian and Iberian authors of the medieval and renaissance periods, and composers that included Josquin, Pierre de La Rue, Mouton, Lassus and others. Given the advances that had been made in music printing in Lisbon in the early 1600s, it is curious to find that the music examples included in surviving copies of Frouvo’s *Discursos* are entered by hand on printed staves.⁵⁶ As many as three more works on music theory by Frouvo, including an evidently large and learned two-volume *Speculum universale* (c. 1651), are referred to in bio-bibliographical literature.⁵⁷ A significant percentage of the theoretical collection listed in Frouvo’s ‘Scriptores de musica’ was probably made up of copies he had made himself: among works by other theorists that are preserved in the Biblioteca Nacional in Lisbon are at least two that are proved to have been copied in his hand.⁵⁸

Among Frouvo’s students was Manuel Nunes da Silva (d. 1704), whose *Arte minima, que com semibreve prolaçam tratta em tempo breve* is one of the two last known printed (surviving) treatises dating from the later 17th century. Although it was first printed in 1685 (in Lisbon), it had apparently already been drafted long before that date and had circulated among his students. It saw two further editions in 1704 and 1725, all published in Lisbon. Silva taught in several Lisbon institutions, with his longest period at the church

⁵² Details of the letter are given in Ribeiro 1965: lix–lxxix.

⁵³ The ‘Principios’ is especially mentioned in the *Bibliotheca Lusitana*, with reference to information provided in Caetano de Sousa’s *História Genealógica* (Nery 1984: 147).

⁵⁴ It is curious to see that a work by Salvador Romana Infante de Moncerrate entitled *Discurso de la perfeccion del Diatessaron* was included in the royal library (*Index* n.º 540). The same work appears in Frouvo’s ‘Scriptores de musica’ as ‘Saluador Romana – Sobre a quarta’ (n.º [148] – see Nery 1990: 290).

⁵⁵ A copy of João IV’s *Respuestas*, certainly, and possibly also his *Defensa*, is listed among Frouvo’s ‘Scriptores de musica’, where it appears as ‘Dom João o quarto – Duuidas a missa Panis quem ego dabo & outro’. Nery 1990: 289. It is likely that these were copied by Frouvo himself.

⁵⁶ Stevenson GMO: ‘Frouvo, João Álvares’.

⁵⁷ See Appendix, and Nery 1984: 99 & 101.

⁵⁸ See Stevenson GMO: ‘Frouvo, João Álvares’.

of the Order of Christ (1685–1704), of which he was a member. As with the majority of Portuguese treatises of the time, there is nothing especially innovative in the work, and it follows a conservative tradition that had previously also been reinstated in Cerone’s *El Melopeo y Maestro* (1613) respecting rules of 16th-century counterpoint (referring to the music of Ghersem and Rogier, for example, as we find in D. João IV’s writings) and the system of the eight church modes. In this work Silva acknowledges the authority of his teacher Frouvo, together with other theorists that include Johannes de Muris, Francisco Tovar, Cerone, and his Spanish contemporary Andrés Lorente. His treatise was popular and cited by Spanish theorists.⁵⁹ Another of Frouvo’s students was the teacher and collector Francisco de Valhadolid who, on his death in 1700, left his own unfinished treatise concerning the ‘Mysterios da Musica’.⁶⁰ The final extant music treatise dating from 17th-century Portugal is an *Arte de canto chão* (Coimbra, 1688), by Mathias de Villa-Lobos, a chapel-master at Coimbra Cathedral who had studied law at the university. It was dedicated to the Bishop of Coimbra, Dom João de Mello. Villa-Lobos also published a liturgical chant book for the cathedral in 1691.⁶¹

II. ‘ARTES PARA TANGER’ (INSTRUCTION BOOKS FOR INSTRUMENTALISTS)

It is not known when the first instruction manuals for playing musical instruments were introduced in Portugal. The situation is also complicated by the fact that despite numerous literary and documentary references to performers and instrument builders,⁶² there is very little surviving evidence of instrumental musical repertories in either manuscript or print dating from an early period. However, whatever the context for playing, formal or informal, there would clearly have been strong repertorial traditions which may or may not have involved improvisation. In the case of providing music for liturgical integration in church, for example, there would certainly have been prescribed expectations apropos function, but which would also have entailed extemporization involving chant melodies.

Players and teachers of different social milieus and musical backgrounds would have learned their playing techniques through other masters in the art, perhaps largely through oral tradition, but undoubtedly in attendance to formulaic procedures. In all events it is clear that various musical notational methods would also have been used or come into being in these different circumstances in accordance with the education and background of the players. By the 15th and 16th centuries, for example, players would probably have benefitted from learning to read and understand mensural notation and contrapuntal procedures from the teaching manuals and music treatises, and their performance could well have been based on notated polyphonic music.⁶³ But it is also extremely likely that special and simpler notational techniques of some kind would have been devised for those instrumental players who had no particular training in using vocal polyphonic sources. Judging by developments in the 16th century, for example, this would have entailed a style of number and/ or letter tablature, such as was associated at least with Moorish musicians who had settled in the Iberian peninsula in an earlier period, but which had also been developed in other European countries from about the 14th century (perhaps also in association with mensural notation).

As demonstrated by the earliest books for instruments and ‘teaching manuals’ issued elsewhere in Europe during the early decades of the 16th century, students may have started by learning to play popular

⁵⁹ For example, the *Curiosidades del cantollano* by Jorge de Guzmán, published in 1709 (Madrid). See Stevenson GMO: ‘Silva, Manuel Nunes da’.

⁶⁰ This book was intended for publication, but never completed. See Nery 1984: 230.

⁶¹ *Inchiridion de missas solemnes*. (Coimbra, Manoel Rodrigues de Almeida, 1691).

⁶² In mid- 16th-century Lisbon, for example, it is recorded that there were large numbers of instrument makers: sixteen ‘violeiros’ (presumably both plucked and bowed string instruments), four makers of ‘manicordios’, and three of organs (Oliveria *Summario*).

⁶³ Shawm players employed at court in the 15th century were admonished to learn to play ‘from the book’ in order to become good and dextrous performers. It has been suggested that this meant that they should learn to play from vocal polyphonic scores: see Brito & Cymbron 1982: 29. However, this could equally well mean that they should learn to improvise on notated melodies, such as is generally understood by the term *super librum*.

melodies on their chosen instrument.⁶⁴ Several of these books contain arrangements of easy vocal music, dances, and preludes and fantasias, a pattern also seen in many of the early Iberian teaching sources for vihuela, keyboard, and other instruments from the 1530s. The main aim of the earliest printed instrumental book in Spain, Luys Milán's vihuela tablature *El Maestro* (Valencia, 1536), however, was to present a series of instrumental 'fantasias' graded according to performing difficulty, although he also included a group of solo songs, including some with Portuguese texts.⁶⁵ A more all-embracing style of repertory characterizes later books for instrumental players printed in Spain such as Venegas de Henestrosa's *Libro de cifra nueva* (Alcalá de Henares, 1557), Cabezón's keyboard *Obras de música* (Madrid, 1578), and the series of vihuela books: these prints include several different types of repertory – both independent instrumental *tientos* and fantasias, and arrangements of vocal music (sacred and secular).

Only a relatively small number of Portuguese prints and manuscripts intended for instrumental teaching and performance have survived from before c. 1700, whilst other books and manuals for instruments may be accounted for through available documentation (see Appendix, II). The majority of sources that can be named would appear to have been intended for keyboard players; but a few also reflect interest in teaching on other instruments. For example, there are books for both plucked and bowed string instruments – guitar and vihuela, bowed viol and rebec – and, as already mentioned, the rare instance of a tutor for the charamela by André de Escobar, dating from the later 16th century. The following focuses particularly on any books and manuscripts that were designed to teach or which included pedagogical material in addition to a musical anthology.⁶⁶

Keyboard books, 16th and 17th centuries

The list of surviving instrumental teaching books begins with the earliest keyboard book to be printed in the Iberian peninsula as a whole: the *Arte nouamente inuentada pera aprender a tanger* by the royal court player Gonçalo de Baena. It was issued in Lisbon in 1540 by Germão Galharde who had also produced Mateus de Aranda's two theoretical treatises.⁶⁷ Baena was a Spaniard, and the book is written in both Castilian and Portuguese. It is significant, perhaps, that like Milán's *El Maestro* and Juan Bermudo's first *Declaración de instrumentos musicales* (Osuna, 1549),⁶⁸ Baena's book was dedicated to the Portuguese king, João III; also like Milán's tablature, Baena's book was specific in its title and intention as a teaching manual for beginners, consisting of a selection of vocal polyphonic music arranged for keyboard performance and graded according to difficulty. Baena's book also includes instruction on how to use his 'newly-invented' type of tablature. For this he introduced a type of 'letter' tablature which differed from any other found

⁶⁴ The first examples are primarily the early publications of Petrucci and Vercellesis in Venice (from 1501 onwards), Antico in Rome (for example, *Frottole intabulate da sonare organi*, *Libro Primo*, 1517), Scotto and Cardano in Venice (for example, A. Cavazoni's *Recerchari / Motetti / Canonii*, 1523), and Pierre Attaignant in Paris (his *Très brève et familiere introduction*, 1529) and others.

⁶⁵ *El maestro* was dedicated to the Portuguese monarch D. João III. Several languages (including Portuguese) were spoken at the court of the duke of Calabria in Valencia, which may also account for the choice of songs included in this works that also include Italian sonnets and works in Castilian.

⁶⁶ It excludes discussion of manuscripts of organ music that were primarily intended for use in liturgical contexts, and any other sources that do not contain pedagogical material: for example, the late organ manuscripts BragaBPM (M 964), PortoBP (MM 43) – excepting the drawing of the keyboard it includes – and the selection of organ pieces dating from the 16th century especially in CoimbraBCU MM 242.

⁶⁷ A ten-year printing licence for the printing of this book was initially granted by D. João III on 19 June 1536: see Deslandes 1888: 19. Until its rediscovery in the Biblioteca del Palacio Real in Madrid in the early 1990s, knowledge of this book was only through the 1536 licence. For further details, see Knighton 1996. There is surprisingly no mention of the book in any old library inventories, including that of the royal music library of D. João IV.

⁶⁸ Full title: *Comiença el libro primero de la declaración de instrumentos*. A second *Declaración* by Bermudo appeared in 1555.

in books of the time, even the many systems that were to be described in Bermudo's *Declaración* of 1555.⁶⁹ It is not yet known to what extent Baena may have become acquainted with books for instruments or notational systems for instrumental music from northern Europe, for example, with which aspects of his book may be compared.⁷⁰ There were certainly opportunities given to players in Lisbon and at the Portuguese court for learning about northern traditions of performance and notation, especially through direct contacts with northern European players employed at court and in Portugal during the first half of the 16th century, and perhaps resulting from the travels of the court and its musicians to the Low Countries.⁷¹ Furthermore, a significant proportion of the vocal music arranged in Baena's book was of Franco-Flemish origin. As mentioned above, the marked presence of German and other northern European publishers and booksellers in Lisbon may also have encouraged musical transmission through early printed treatises and polyphonic books.

The organist and poet Gregorio Silvestre may well have become aware of Baena's experiments in a 'new' notational system when he was a young boy living in very close proximity to royal Portuguese circles.⁷² He was also to compile an 'Arte de escrever por cifra' for keyboard (now lost), which possibly dates from his time in Granada as organist at the cathedral in the second half of the 16th century (from about 1541 onwards). However, by the time Silvestre had compiled his *cifra* book, he was likely to have been better acquainted with the more universally adopted notational system introduced in Venegas de Henestrosa's *Libro de cifra nueva* (1557), notwithstanding the various systems and teaching methods described by Bermudo whom he knew.⁷³ A further keyboard compilation in tablature dating from that time by a Portuguese organist principally active in Coimbra was Pedro Pimental's (d. 1599) 'Livro de cifra de varias obras para se tangerem no órgão', which may have reached printing.⁷⁴

Tablature notation was essentially devised not only for players who were not tutored in reading polyphonic mensural notation, but also for its convenient economical layout (as a paper-saving device). Nonetheless, the compilers of the various books of tablature themselves would have been well-versed in mensural notation and would undoubtedly have 'translated' items of vocal music from vocal prints and manuscripts copied in mensural notation for the easier tablature. Part of the origin of the pair of manuscripts copied in open-score format preserved in Coimbra (MM 48 and MM 242) almost certainly lay in teaching methods for keyboard players (and others) at the monastery of Santa Cruz where learning the organ or other keyboard instruments was obligatory for novices.⁷⁵ This pair of manuscripts can be seen as a testimony to the many hours spent by students at the monastery in copying (transcribing) numerous items of polyphony from imported prints and manuscripts into score notation.⁷⁶ This system of transcription was largely intended for the students to learn about contrapuntal techniques from established masters in order to further their own compositional and performing abilities; it also reflects a method recommended by Bermudo and Venegas de Henestrosa as a means for becoming a proficient player, and was an

⁶⁹ Juan Bermudo, *Declaración de instrumentos musicales*, chapter 42 (ff. 83-84v).

⁷⁰ Knighton 1996: 99.

⁷¹ For example, it is recorded in a document preserved in Mechelen that the organist and singers of the king of Portugal (D. Manuel I) made a stage there in c. 1516 (noted in Ferreira 2008 (I): 65, n. 167).

⁷² Silvestre was born in 1520 (his father was physician to D. João III).

⁷³ Silvestre 'approved' Bermudo's first two publications (1549 and 1550). See Nelson 2011 (forthcoming). The 'secret' coded *cifras* system used by Silvestre was alluded to in a poem by Luiz de Barrahona (see Nery 1984: 225).

⁷⁴ See Nery 1984: 193.

⁷⁵ An inscription found at the back of MM 48 reads: 'Em os seis dias de Junho / 1559 / comecei a dar lição de tanger aos irmãos dom bras, dom bernado e dom Joam'. See also Pinho 1981: 71 ff.

⁷⁶ For details of foreign prints used for this exercise, see Rees 1995 272-77 and 326-37.

intermediary system of notation before its translation into *cifra*.⁷⁷ There are also copies of ornamenting, or *glosado*, formulae from Diego Ortiz's *Tratado de glosas* (1553) in MM 242 (some of which were expanded), which were presumably used as reference for budding keyboard players learning the art of embellishing polyphonic music. Moreover, in addition to copies of vocal polyphonic music from northern European and Italian printed books, and instrumental music by Jacques Buus (1547), for example, MM 242 in particular includes music by the two most famous keyboard composers in 16th-century Spain and Portugal: Antonio de Cabezón (d. 1566)⁷⁸ and his younger contemporary at the royal Portuguese chapel, António Carreira. The music of the former was apparently taken from Venegas de Henestrosa's *Libro de cifra nueva* (1557). The number of errors in copying even among the keyboard works of Cabezón makes it less likely (as is frequently suggested in historical studies) that this manuscript source at Coimbra was specifically intended for direct performance.⁷⁹

The first and only keyboard book to be published in Portugal in the 17th century was Manuel Rodrigues Coelho's *Flores de musica pera o instrumento de Tecla. & Harpa*. It was printed in Lisbon by Pedro Craesbeeck in 1620 and is notated in partitura, or 'open-score', in the vein of the two Coimbra manuscripts and Jacques Buus's book of *ricercari* for viols (1547).⁸⁰ This was evidently a convenient notational method for those versed in mensural notation, although the *cifra* system was still employed at that time. Coelho's book was primarily directed to organists; but the designation 'Tecla & Harpa' reflects the apparent multi-functional intention of the books produced of Venegas de Henestrosa and Cabezón. His introductory pages include first, a 'Prologo da obra aos tangedores, & professores do instrumento de Tecla', and second, 'Advertencias particulares para se tangerem estas obras com perfeição'. In the latter, the royal chapel organist indicates that it is not his intention to provide teaching to beginners on playing techniques and style as this book of music is designed for more developed players. He nonetheless gives some general guidelines for playing in at least six points. The classical style of title for Coelho's book, *Flores de musica*, possibly inspired by titles of prints of 16th-century vocal music,⁸¹ is reflected again in the choice of title for the now lost organ book by the Coimbra composer Augustinho da Cruz, 'Prado musical para organ' (c. mid-17th century).⁸² The latter was dedicated to D. João IV, and was apparently approved for printing by the king. Another keyboard instruction book, now also missing, was António Fernandes's 'Theorica do manicordio, e sua explicação'.⁸³

The partitura notational system is found in a number of other books copied in the Iberian peninsula during the 17th century. These include a manuscript of liturgical organ music preserved in Porto (MM 43) compiled by Roque da Conceição, which is dated 1695. Of some interest in the introductory folios to this source is what appears to be a copy of Bermudo's scheme or plan of a keyboard with a numbered 42-note span from his *Declaración*. Unlike Bermudo, however, the keys are also given their alphabetical letters as well as the figures from the common Spanish *cifra* system.⁸⁴ The other late 17th-century organ manuscript preserved in Porto, the *Libro de cyfra* (MM 42) employs this popular system of tablature notation and, as with other instrumental tablatures, it opens with an 'Arte de sifra' that describes the system of notation, and how it is to be read and used; it also incorporates teaching material on playing the keyboard. The manuscript otherwise consists of an anthology of different genres of composition, the majority stemming

⁷⁷ Nelson 2005: 171, and Nelson forthcoming.

⁷⁸ *Obras para tanger de Antonio cabeçon o cego* (MM 242, ff. 101v-105v).

⁷⁹ See Rees 1995: 342-60.

⁸⁰ *Libro primo* (Venice, 1547).

⁸¹ Such titles feature among early prints of motets and chansons published in Rome and Venice, and by Susato in Antwerp (1550s).

⁸² It was again used for organ manuscripts compiled by Martín y Coll in Spain in the early 18th century.

⁸³ See also below for other theoretical writings by Fernandes concerned with keyboard music.

⁸⁴ This diagram of the keyboard is reproduced in Speer 1967 [plate III].

primarily from practice in a liturgical context.⁸⁵ Before this book, other surviving pieces of liturgical organ music copied (presumably in Lisbon) in tablature notation were incorporated as an appendix to a copy of Francisco Correa de Arauxo's famous *Livro de tientos y discursos de música práctica... Facultad Organica* (Alcalá de Henares, 1626), which is preserved in the Biblioteca da Ajuda in Lisbon. The intention of this group of pieces – works by Spanish composers employed at the royal Lisbon court – appears to have been to provide works in modal transpositions over and above those presented in the printed book of Correa de Arauxo's music, presumably in order to meet the various requirements of the church organist.⁸⁶ Questions relating to the integration of organ music with modal chant in the various church offices were frequently discussed by theorists, including notably by the Spanish theorist and organist Antonio Martín y Coll in his *Arte de canto llano* of 1719.⁸⁷ Such issues also enter into Antonio Fernandes's *Regra universal para se conhecer qualquer / Cantoria de que tom seja assj por Bquadrado, como por bmol, e dos signos por onde se tange no Orgão para uir em tom natural...* in the section *Regra geral para o Orgão*.

Manuals for string players

Judging from documentary and iconographical evidence dating back to at least the mid- 15th century, a fairly wide variety of stringed musical instruments were popularly played and taught throughout this period: in particular, the vihuela, the viol, the rebec, the guitar, and the harp. The extent of the use of the vihuela, a popular instrument more especially associated with 16th-century Spain, is not clearly identified, although the names of a number or the more famous players of this instrument emerge in documents from time to time.⁸⁸ Only one teacher of the instrument appears in the records of professionals in mid- 16th century Lisbon, however.⁸⁹ There is thus no history of vihuela books in the vein of the printed series produced in Spain, but practitioners and teachers of this instrument would almost undoubtedly have had access to such books, and have had close encounter with the playing techniques they describe. Luys Milán's famous dedication to D. João III of his vihuela tablature *El Maestro* (1536), in which Portugal is described as 'la mar de la música' into which he launched his book, may be interpreted as an indication of the expected favourable reception of his music there.⁹⁰ Spanish players evidently crossed the border, and at least two players are known to have been employed at the Portuguese court in the 16th century.⁹¹ The famous Spanish vihuelist Miguel de Fuenllana, for example, was employed by D. Sebastião in c. 1574, as a *musicista da camera*, having been recommended for his 'sufficiencia na arte da musica e de tanger'.⁹² By that time, Fuenllana was famous for his vihuela tablature *Orphenica lyra* (Seville, 1554). D. João IV's music library included the entire series of Spanish vihuela books printed from 1536 (Milán's *El Maestro*) onwards, in addition to a number of other books (in *cifra*) in print and in manuscript which may have been for this instrument.⁹³ However,

⁸⁵ Music in this manuscript is by Spanish composers.

⁸⁶ This and other aspects of keyboard performance will be developed in a further publication.

⁸⁷ See Nelson 1994.

⁸⁸ For example, two Portuguese players of this instrument were employed at the court of Charles V and in Seville, and there was a noted player, and 'mestre da música', called Gaspar de Meirelez, who is identified through Fernão Mendes Pinto's *Peregrinação* (1554). See Morais 2007: 35–6 & 53, and also Brito & Cymbron 1992: 50.

⁸⁹ Ferreira 2008 (I): 90.

⁹⁰ 'La mar donde he echado este libro es piamente el reyno de Portugal que es la mar de la musica: pues en tanto la estima como la entienden' (from the preface to *El Maestro*). It is interesting that Baena's dedication to the king in his *Arte nouamente inuentada* expresses a similar sentiment (see Knighton 1996: 88 and 100).

⁹¹ Brito & Cymbron 1982: 51.

⁹² Viterbo 1932: 226–7, from *Chancelaria de D. Sebastião e de D. Henrique, Doações* 40, f. 158.

⁹³ These are listed principally in *Caizão 16* (*Obras para tanger varios instrumentos*), but also appear in *Caizão 37* (a miscellaneous collection of printed books).

in practically all entries in the *Index* to the royal library, the more generic term (in Portuguese) ‘viola’ is used for both the vihuela and the bowed viol, although the latter may occasionally be qualified ‘de arco’. The precise intention of many of these books is therefore difficult to ascertain. One such book appears in the *post-mortem* inventory (c. 1564) of the eighth duke of Braganza, D. Teodósio I, where it is intriguingly entitled ‘Liuro quinto da musica pera violas de letra...’ – the fifth book of a series for ‘viola’ instruments, presumably notated in tablature.⁹⁴ It is probably the case that a number of vihuela books in manuscript were circulated in Portugal during the 16th and 17th centuries.

There was clearly a marked interest in the bowed viol and viol consorts during this time also, although information about this activity is again relatively scant, as it is in Spain. They were certainly played in courtly institutions, for example, as references to the numbers of players and instruments (of varying sizes) at the court of the dukes of Braganza in the 16th century testify, as well as the references to books used by these musicians.⁹⁵ They were also integral to musical activity at the monastery of Santa Cruz in Coimbra by the mid-16th century especially, along with a number of other instruments (besides the keyboard).⁹⁶ It is likely that many viol players would have played from specific books for this instrument such as those of Jacques Buus and Diego Ortiz dating from the mid 16th century, and from part-books of vocal polyphonic music, or at least copies of vocal repertoires. The record of an apparently unique ‘Arte da viola de arco’ written by Antonio Jacques de Laserna, which was dedicated to D. João IV, reflects an interest in providing teaching manuals for this instrument.

Probably the most unusual of ‘Arte de’ books for teaching instruments named in documentary sources was Augustinho da Cruz’s book for the small violin entitled ‘Lyra de Arco’ (or ‘Arte de rebequinha’), which he had dedicated to D. João Mascarenhas de Lencastre (d. 1668), third Count of Santa Cruz, and *vedor* of the royal court of D. João IV. Finally, a Portuguese musician who made his career outside Portugal, Nicolás Doizi (or Dias) de Velasco, is especially associated with his tablature and treatise for the five-course guitar – *Nuevo modo de cifra para tañer la guitarra*, printed in Naples in 1640.⁹⁷ Prior to this publication and his time in Naples, Velasco had become attached to the court of Philip IV of Spain in Madrid. This work is noted for being one of the first by an Iberian musician to discuss the art of basso continuo.

* * *

The significance of the series of treatises and ‘Artes de’ – both theoretical and practical – that may be identified in Portuguese musical history over a period of two or more centuries cannot be overestimated. These books witness both the spread of ideas and thought and, where printed books especially were concerned, a demand for such pedagogical works by both members of the clergy, professors and students at university and other teaching institutions, and practising musicians. Although there is only relatively scant information about the numbers of books that may once have existed in Portugal, self-tuition manuals for instruments as such were universally extremely popular and were essential tools for the proliferation of playing techniques and other methods of instruction; they also offered a wide and varied repertory of appropriate music for performance, which was frequently graded according to difficulty. Only about a third of the various treatises and practical books that can be catalogued survive today, unfortunately. However, the fact that so many had been collected alongside internationally circulated works by leading authorities

⁹⁴ A study of this inventory will be appear in a forthcoming publication.

⁹⁵ By 1532 there were five players at the court of D. Teódosio I. There were also various sizes of viols listed in the duke’s *post-mortem* inventories, in addition to sets of part books used by the players (details will be given in a more extended study).

⁹⁶ See Pinho 1981:71–80 and 141.

⁹⁷ An inscription in the unique copy of the *Nuevo modo de cifra* preserved in Madrid, which otherwise lacks a title page, provides details of the printing. For further information on this musician, see Stevenson/ Hall GMO: ‘Doizi de Velasco, Nicolás’.

from the earliest times, and were considered significant enough to be mentioned in historical biographical documentation especially, is a testimony to the intellectual and musical panorama (of which they were products) of the time. Further, the involvement and support of monarchs and other important persons in the making of a number of these books contributes to an appreciation of the importance of patronage as an added incentive for their conception and production.

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APPENDIX:
CATALOGUE OF MUSIC TREATISES AND 'ARTES PARA TANGER' IN PORTUGAL BEFORE THE 18TH CENTURY

I: Music treatises

no.	Date	Author	Title'	MS/ Print details	Type	Bibliographical refs/editions²
1	Mid-late 15thc.	Silva, Tristão da (fl. 1440–1475)	'Amables de musica' or: 'Los amables de la música'	MS (lost)	Theoretical	Nery 1984: 221.
2	Late 15thc.	Anon.	[<i>Tratado de música</i>]	MS (Leiria)	Modal theory & chant	Ferreira (forthcoming). <i>MS copy</i> : LeiriaBP (MS s/c)
3	1494	Anon.	[<i>Tratado dos tons das antifonas e Arte do canto chão</i>]	MS (Evora)	Chant	Sharrer 2009. <i>MS copy</i> : EvoraBP (Cod.CXIII/1-40. ff. 21-35)
16 th century						
4	1533	Aranda, Mateus de (1495–1548)	<i>Tractado de canto llano</i> (Dedicated to Alonso, Card. Infante, Archbishop of Lisbon)	Lisbon: Cermão Galharde, 1533	Chant	Alegria 1962. Ferreira et al 2010. João IV <i>Livraria da musica</i> : no. 530(a); Frouvo 'Scriptores de musica' [22] (Nery 1990: 286). <i>Copies</i> : EvoraBP (1); Vila ViçosaBP (1)
5	1535	Aranda, Mateus de	<i>Tractado de canto mensurable</i> (Dedicated to Alonso, Card. Infante, Archbishop of Lisbon)	Lisbon: Cermão Galharde, 1535	Mensural music & improvised counterpoint	Alegria 1978. João IV <i>Livraria da musica</i> : no. 530(b). <i>Copies</i> : EvoraBP (1); Vila ViçosaBP (1)
6a	c. 1550	Martínez, Juan (fl. first half 16thc.) / Bernal, Afonso Perea de (d. 1593)	[<i>Arte de canto chão</i>]	[Coimbra, c. 1550]	Chant	Translation of Juan Martínez's <i>Arte de canto llano</i> (Alcalá de Henares, 1532) Ribeiro 1963.
7	1553 2/ 1558	Lusitano, Vicente (d. after 1561)	<i>Introductione felicissima. & novissima di canto fermo. figurato, contraponto semplice, et in concerto, com regole generali per far fughe differenti sopra il canto fermo</i>	Rome: Antonio Blado, 1553 (4 ^o) 2/ Venice: Francesco Marcolini, 1558 (4 ^o)	Mensural music & improvised counterpoint, etc	Nery 1984: 156-7. João IV <i>Livraria da musica</i> : no. 524(a); Frouvo 'Scriptores de musica' [98] (Nery 1990: 288); Santa Cruz library inventory.
	3/ 1561 3b/ 1603	Lusitano, Vicente (d. after 1561)	<i>Introductione felicissima. & novissima di canto fermo. figurato, contraponto semplice ...</i> (Dedicated to Marco Antonio Colonna, Duke of Marsi)	3/ Venice: Francesco Rampazzeto, 1561 (4 ^o grande) 3b/ Translation into Portuguese by Bernardo da Fonseca (MS only?)	Mensural music & improvised counterpoint, etc	Nery 1984: 156-7. João IV <i>Livraria da musica</i> : no. 524(a); Frouvo 'Scriptores de musica' [98] (Nery 1990: 288); Santa Cruz library inventory.

no.	Date	Author	Title ¹	MS/ Print details	Type	Bibliographical refs/editions ²
8a	c. mid- 16thc.	Lusitano, Vicente	'Trattato di musica pratica'	MS (lost?)	Theory/ mensural music	Mentioned in Lusitano's <i>Introductione</i> . (See Stevenson 1962 for attribution arguments)
8b	c. mid- 16thc.	?Lusitano, Vicente	<i>Tratado de canto de órgano</i>	MS (Paris)	Mensural music & improvised counterpoint	Collet (ed.) 1913. (See Stevenson 1962 for attribution arguments) <i>MS copy</i> : ParisBN: MS (Esp.219)
9	1560	Rodrigues, João (c. 1500–c. 1576)	'Arte de canto chão'	MS fol. (lost)	Chant	Draft began c. 40 years before. Nery 1984: 206–7. F. de Valhadolid library
10	1563	Velez de Guevara, Francisco (Vellez, Velles) (fl. 1544–1575)	'Tratado de canto chão de cinco cordas', & 'de camto dorguão e contrapunto' or 'Arte de canto chão e de orgão' (Frouvo)	MS (lost: prepared for printing)	Two treatises in one: chant & mensural music	5-year privilege to print granted by D. Sebastião, 8 Mar. 1563 Deslandes 1888: 74. Frouvo 'Scriptores de musica' [40] (Nery 1990: 286)
11	c. mid-late 16thc.	Velez de Guevara, Francisco	'Musica speculativa y experiencia della'	MS (lost)	Speculative (?)	João IV <i>Livraria da musica</i> : no. 484.
12	c. mid-late 16thc.	Cois, Damião de (1502–1574)	'Tratado da Theorica da Musica'	MS (lost)	Theoretical	Nery 1984: 113 & 125.
13	c. mid-late 16thc.	Escobar, João (de)	'Arte de musica theorica & practica'	MS (lost)	Theoretical	João IV <i>Livraria da musica</i> : no. 483
14	1576	Rodrigues, João	'Arte de musica da reformação e perfeição do canto chão e de toda a musica cantada e tangida'	MS (lost: prepared for printing)	Chant, vocal & instrumental music	10-year privilege to print granted by D. Sebastião, 5 Mar. 1576. Possibly originates in 1560 work: see above.) Deslandes 1888: 97. F. de Valhadolid library
15	Late 16thc. (after 1580)	Delgado, Cosmé	'Manual de Muzica' (in 3 parts) (Dedicated to Archduke Albert of Austria, Viceroy of Portugal)	MS (lost: prepared for printing?)	Theoretical(?)	Nery 1984: 87–8.
16	Late 16thc.	Mendes, Manuel (d. 1605)	'Arte de canto chão'	MS (lost)	Chant	Nery 1984: 168–9. João IV <i>Livraria da musica</i> : no. 511
17	Late 16thc?	Pereira, Fr. João	[various books concerning theoretical and practical musical material]	MSS (lost)	Theoretical, practical	Nery 1984: 194. Tomar Convent (lost copies)
6b	1597 2/ 1603	Martinez, Juan (fl. first half 16thc.) / Bernal, Afonso Perea de (d. 1593)	<i>Arte de canto chão, posta & reduzida em sua inteira perfeição...Ordenada por João Martinz sacerdote. Acrescentada de novo ... por Afonso Perea sendo cathedratico de musica na Universidade de Coimbra</i>	Coimbra: Antonio de Barreira 2/ Coimbra: Manuel de Araujo, 1603	Chant	Work based on Juan Martinez's <i>Arte de canto llano</i> (Alcaláde Henares, 1532) Ribeiro 1963. <i>Copies</i> : 1/ 1597: CoimbraBGU (1); EvoraBP (1)

no.	Date	Author	Title'	MS/ Print details	Type	Bibliographical refs/editions ²
6c	3/ 1612	Martínez, Juan	<i>Arte de canto chão, posta</i>	3 & 4/ Coimbra:	Chant	3/ 1612: LisbonBN (3)
	4/ 1614	(fl. first half	& <i>reduzida em sua inteira</i>	Nicolau		5/ 1625: Lisbon BN (1)
	5/1625	/ Cordeiro,	<i>perfeição...Ordenada por</i>	Carvalho, 1612		[& digital copy]
		Pe. Antonio	<i>João Martinz sacerdote ...</i>	5/ Coimbra:		
		(fl. first half	<i>Agora de novo revista, &</i>	Nicolau		
		17thc.)	<i>emmendada ... pello Padre</i>	Carvalho, 1625		
			<i>Antonio Cordeiro Sochantre</i>			
			<i>na Sè de Coimbra</i>			
17th century						
18	1618	Thalesio, Pedro	<i>Arte de canto chão</i>	Coimbra:	Chant	João IV <i>Livraria da musica</i> :
	2/ 1628	(c. 1563–c. 1629)	(Dedicated to D. Afonso	Diogo Gómez		no. 504;
			Furtado de Mendoça,	de Loureyro,		Frouvo 'Scriptores de musica'
			Bishop of Coimbra)	1618		[104] (Nery 1990: 288); Santa
				2/ Coimbra:		Cruz library inventory.
				Diogo Gómez		<i>Copies</i> :
				de Loureyro,		1/ 1618: CoimbraBCU (2);
				1628		LisboaBN (3) [& digital copy]
						2/ 1628: CoimbraBCU (1);
						LisboaBN (2)
19	Early 17thc.	Thalesio, Pedro	'Compendio de canto	MS (lost:	Mensural	João IV <i>Livraria da musica</i> :
			de órgão, contrapunto,	intended for		no. 515.
			composição, fugas &	publication)	improvised	(Also mentioned in Thalesio
			outras cousas'		counterpoint	1618)
20a	1625	Fernandes,	<i>Arte de canto dorgam,</i>	MS (Cascais)	Chant &	<i>MS copy</i> :
		Antonio	<i>canto cham, e Proporsoins</i>			CascaisMBCCG (Res. 784.9
		(c. 1695–after	<i>da Musica diuididas</i>		mensural	FER/ [ii])
		1680)	<i>harmonicamente</i>		music	
20b	1626	Fernandes,	<i>Arte de musica de canto</i>	Lisbon: Pedro	Chant &	Alegria 1996.
		Antonio	<i>dorgam, e canto cham,</i>	Craesbeeck,		João IV <i>Livraria da musica</i> :
		(c. 1695–after	& <i>Proporções de Musica</i>	1626	mensural	no. 498;
		1680)	<i>diuididas harmonicamente</i>		music	F. de Valhadolid library;
			(Dedicated to Duarte			Santa Cruz library inventory.
			Lobo)			<i>Copies</i> :
						CoimbraBCU (3); EvoraBP (2);
						LisboaBN (5) [& digital copy]
21	1632	Cruz,	Two 'Artes de musica':	MSS 8º (lost)	Chant &	Nery 1984: 82–3.
		Agostinho da	'... de canto chão por			F. de Valhadolid library
		(c. 1590 – c.	estilo novo' &		mensural	
		1640)	'... de canto de órgão, com		music	
			figuras muito coriosas ...'			
			(Both dedicated to D. João			
			(IV))			
22	Early 17thc.	Villena	'Arte de canto cham para	MS 4º (lost)	Chant	Nery 1984: 233–4.
		(Vilhena),	principiantes'			João IV <i>Livraria da musica</i> :
		Diogo Dias de				no. 505.
		(fl. early 17thc.)				
23a	Before 1641	Brito, Estêvão de	'Tratado de musica',	MS (lost)	Theoretical	Nery 1984: 52–3.
		(c. 1575–1641)	or: 'Theorico da musica'			João IV <i>Livraria da musica</i> :
						no. 513.

no.	Date	Author	Title'	MS/ Print details	Type	Bibliographical refs/editions²
23b	Before 1641	Brito, Estêvão de	'Practica musica'	MS (lost)	Theoretical/ practical	Frouvo 'Scriptores de musica' [163] (Nery 1990: 290)
24	c. mid- 17thc	Anon. (Santa Cruz, Coimbra)	<i>Arte de contraponto</i> (i) <i>Arte de contraponto</i> (ii) & <i>Arte de canto chão</i>	MS (Coimbra)	Mensural music & chant	<i>MS copies:</i> CoimbraBCU (MM 236)
25	[1634]	Fernandes, Antonio	<i>Explicação de segredos da musica (Causas e Porques da musica)</i>	MS (Cascais)	Theoretical	<i>MS copy:</i> CascaisMBCCG (Res. 784.9 FER/ [iii])
	1634	Fernandes, Antonio	'Explicação de segredos de musica, em a qual brevemente se expende as cousas das principaes cousas que se contem na mesma Arte'. or: 'Livro dos Porques da Muzica'	MS (lost copy)	Theoretical	Nery 1984: 93-4. João IV <i>Livraria da musica</i> : no. 501.
26	c. mid- 17thc?	Fernandes, Antonio	<i>Regra geral para se conhecer qualquer Cantoria</i> incl: <i>Regra geral para o Orgão</i> & <i>Regra geral para o Psalmeado</i>	MS (Cascais)	Theoretical / practical	<i>MS copy:</i> CascaisMBCCG (Res. 784.9 FER/ [iii])
27	c. mid- 17thc?	Fernandes, Antonio	'Mappa universal de quanto a musica comprehende natural, e accidental com seus generos, e diapaçois de hum até 25 por seus numeros com muita clareza e deonstraçois mathematicas' or: 'Mappa universal de qualquer coisa assim natural, como accidental ...'	MS fol. (lost)	Theoretical / speculative	Nery 1984: 94. F. de Valhadolid library
28	By mid- 17thc.	João IV (1604–1656)	'Concordancia da Musica e passos della collegida dos mayores professores desta arte'	MS (lost)	Theoretical	Nery 1984: 147.
29	By mid- 17thc.	João IV	'Principios da musica, quem forão seus primeiros authores, e os progresos, que teve'	MS fol. (lost)	Theoretical	Nery 1984: 147.
30a-b	1649	João IV	<i>Defensa de la musica moderna contra la errada opinion del Obispo Cyrilo Franco</i> (Dedicated to João Lourenço Rebelo)	[Lisboa, 1649]	Speculative	Ribeiro 1965; Nery 1984: 139-47. <i>Copies:</i> CoimbraBCU (1); EvoraBP (1); LisboaBN (3)
	(c. 1650)		<i>Difesa della musica moderna ... Tradotta di spagnulo in italiano</i>	[Rome], c. 1650	Speculative	<i>Copies:</i> LisboaBN (2)

no.	Date	Author	Title'	MS/ Print details	Type	Bibliographical refs/editions²
31	c. 1650	Frouvo, João Álvares (1608–1682)	'Speculum universale in quo exponuntur omnium ibi contemtorum auctorum loci..' (vol. I)	MS fol. (lost)	Speculative	Nery 1984: 99 & 101.
	1651	Frouvo, João Álvares (1608–1682)	['Speculum universale...'] (vol. II)	MS fol. (589pp.) (lost)	Speculative	Vol. II once in possession of Diogo Barbosa Machado.
32a-b	1654]	João IV	<i>Respuestas a las dudas que se pusieron a la Misa Panis quem ego dabo de Palestrina ...</i>	[Lisboa, 1654]	Speculative	Ribeiro 1958; Nery 1984: 145. Frouvo 'Scriptores de musica' [132] (Nery 1990: 289) <i>Copies:</i> LisboaBN (2)
	1655	João IV	<i>Risposte alli dubii ... Tradotte di spagnuolo in italiano</i>	[Rome: Mauricio Balmonti]. 1655	Speculative	
33	1662 (completed before 1649)	Frouvo, João Álvares	<i>Discursos sobre a perfeiçam do diathesaron, & louvores do numero quaternario</i>	Lisbon: Antonio Craesbeeck e Melo, 1662	Theoretical & speculative	Ribeiro 1965. João IV <i>Livraria da musica</i> : no. 536. <i>Copies:</i> LisbonBN (2); EvoraBP (1)
34	Mid-17thc?	Frouvo, João Álvares	'Theorica da musica. com todas as rasões, assi nesta como na practica'	MS (lost: intended for publication)	Theoretical	Nery 1984: 99 & 101.
35a-b	Mid-17thc?	Frouvo, João Álvares	'Tratado sobre os doze modos'	MS (lost)	Theoretical	Nery 1984: 99 & 101.
	Mid-17thc?	Frouvo, João Álvares	(?or:) 'Breve explicação da musica'	MS (lost: copied in 1678 by his pupil Antonio da Cunha de Abreu)	Theoretical	Nery 1984: 99 & 101.
36	c. mid-late 17thc.?	Cruz, Gaspar da	'Arte do canto chão recopilada de varios autohores'	MS 4 ^o size (lost)	Chant	Nery 1984: 85. F. de Valhadolid library — bound with his 'Arte de canto de órgão'
37	c. mid-late 17thc.?	Cruz, Gaspar da	'Arte de canto de órgão', & 'de Contraponto'	MS 4 ^o size (lost)	Mensural music	Nery 1984: 85. (see item above)
38	c. mid-late 17thc.	Mendonça, Leoniz de Pina e	'Vários opusulos pertencentes à theorica da musica'	MS (lost)	Theoretical	Nery 1984: 169–74 (at 174).
39	c. 1680	Fernandes, Antonio	'Arte da musica de canto de órgão composta por hum modo muito diferente do composta por hum velho de 85 annos dezejeso de evitar o ocio'	MS fol. (lost)	Mensural music	Nery 1984: 93–4. F. de Valhadolid library

no.	Date	Author	Title'	MS/ Print details	Type	Bibliographical refs/editions*
40	1685 2/ 1704 3/ 1725	Silva, Pe. Manuel Nunes da (d. 1704)	<i>Arte minima, que com semi breve recopilação trata em tempo breve os modos da maxima, e loga sciencia da Musica</i>	Lisboa: João Galvão, 1685 2/ Lisboa: Miguel Manescal, 1704 3/ Lisboa: João Galram, 1725	Mensural music, counterpoint, theory	Santa Cruz library inventory. <i>Copies:</i> 1/ 1685: CoimbraBGU (2); EstorilMMP/CVF (1); EvoraBP (1); LisboaBN (6) [& digital copy] 2/ 1704: CoimbraBGU (4); EstorilMMP/CVF (2); MafraBPN (1) 3/ 1725: CascaisMBCCG (1); Coimbra BCU (2); LisboaBN (3)
41	1688	Villa-Lobos, Mathias de Sousa	<i>Arte de canto chão</i> (Dedicated to D. João de Mello, Bishop of Coimbra)	Coimbra: Manoel Rodrigues de Almeida, 1688	Chant	Santa Cruz library inventory. <i>Copies:</i> CascaisMBCCG (1); LisboaBN (1)
42	c. 1680–1707	Pereira, Tomás (1645–1708)	'Lülü Zuan Yao' ['A true doctrine of music'] in 4 vols. Vol. 5 ('Lülü Zheng Yi-Xu Bian') begun by Pereira; completed by Teodorico Pedrini after 1711	MSS (lost) 5 vols: Beijing, 1713 (lost)	Theoretical/ speculative	Nery 1984: 191–2. (This work is referred to in the <i>Bibliotheca Lusitana</i> as 'Musica practica, e especulativa')
43	c. 1700	Valhadolid, Francisco da (Valladolid) (d. 1700)	'Mysterios da musica'	MS (lost: prepared for publication, but left unfinished on death)	Practical & theoretical/ speculative	Nery 1984: 229–30. F. da Valhadolid library (lost copy)
44	c. 1680– 1720	Anon.	<i>Rezumo da arte de canto de organ</i>	MS (Lisbon)	Mensural music	<i>MS copy:</i> LisbonBN (MM 1834)

II – ‘Artes para tanger’

no.	Date	Author	Title¹	MS/ Print details	Type	Bibliographical refs/editions²
16th century						
1	1540	Baena, Gonçalo de (c. 1480–after 1540)	<i>Arte nouamente inuentada pera aprender a tanger</i> (Dedicated to D. João III)	Lisbon: Germão Calharde, 1540	Keyboard Instruction Tablature notation	Knighton forthcoming. <i>Unique copy</i> ; MadridBPR (1)
2	c. mid- 16thc.	Sylvestre, Gregorio (1520–1570)	‘Arte de escrever por cifra’	MS [drafted in Granada] (lost)	Keyboard Tablature tuition	Nery 1984: 225.
3	Late 16thc.	Escobar, André de	‘Arte de musica para tanger o instrumento da charamelinha’ or: ‘Hum livro de Musica tocante a este instromento’	MS (lost)	Charamela Instruction	Nery 1984: 90–1.
4	Late 16thc.	Pimental, Pedro (d. 1599)	‘Livro de cifra de varias obras para se tangerem no orgão’ or: ‘Hum livro de cifras de obras para tanger em tecla, e impresso ibi, em 4º’	?Printed in Coimbra: 4º size (lost)	Keyboard Tablature notation	Nery 1984: 192–3. (Information that the book was printed given in Barreto.)
17th century						
5	1620	Coelho, Manuel Rodrigues (c. 1555–c.1635)	<i>Flores de musica pera o instrumento de tecla & harpa</i> (‘Advertencias particulares para se tangerem estas obras com perfeição’, ff. [iv–ivv]) (Dedicated to Philip III of Portugal)	Lisbon: Pedro Craesbeeck, 1620	Keyboard Partitura (mensural notation)	Kastner 1961–76. João IV <i>Livraria da musica</i> : no. 453. <i>Copies</i> : EstorilMMP/CVF (1); EvoraBP (1); LisboaBAj (1); LisboaBN (2) [& digital copy]
6	1st half 17thc.	(various)	[<i>Advertencias</i>]	MS appendix to Francisco Correa de Arauxo’s <i>Libro de tientos</i> (Alcalá, 1626)	Organ theory (on mode and transposition)	<i>Copy</i> : LisbonBAj (38–XII–27)
7	1st half 17thc.	Cruz, Agostinho da	‘Arte de rebequinha’, called ‘Lyra de Arco’ (Dedicated to D. João Masca-renhas, Count of Santa Cruz)	MS 4º (lost)	Rebec [small violin] Instruction	Nery 1984: 81–3.
8	[c. 1630s?]	Cruz, Agostinho da	‘Prado musical para orgam’ (Dedicated to D. João IV)	MS (lost: apparently approved for printing by D. João IV)	Organ	Nery 1984: 81–3.

no.	Date	Author	Title ¹	MS/ Print details	Type	Bibliographical refs/editions ²
9	1640	Velasco, Nicolau Doizi de (c. 1590–1659)	<i>Nuevo modo de cifra para taner la guitarra con variedad, y perfeccion, y semuestra ser instrumento perfecto, y abundantissimo</i>	[Naples: Egidio Longo, 1640]	Guitar Instruction Tablature notation	Nery 1984: 231. Copy: MadridBN (1)
10	By mid-17thc.	Laserna, Antonio Jacques de	'Arte da viola de arco' (Dedicated to D. João IV)	MS (lost)	Bowed viol Instruction	Nery 1984: 148.
11	Mid-17thc?	Fernandes, Antonio	'Theorica do manicordio, e sua explicação' ('declaração'?)	MS fol. (lost)	Keyboard Instruction	Nery 1984: 93–4. F. de Valhadolid library
12	Mid-17thc?	Fernandes, Antonio	<i>Regra geral para o Orgão</i>	MS (Cascais)	Organ theory (on mode and transposition)	<i>MS copy</i> : CascaisMBCCG (Res. 784.9 FER/ [iii]: part of <i>Regra universal para se conhecer qualquer Cantoria</i>)
13	1695	Conceição, Roque da	<i>Libro de obras de órgão</i> [<i>Esquema do teclado</i>]	MS (Porto)	Organ book including design of keyboard	Speer 1967. <i>MS copy</i> : PortoBPM (M. 43)
14	c. 1700	Olague, fr. Bartolomeo de (& others)	<i>Libro de cyfra</i> ('Arte de sifra', & 'Modo de por as mãos em o órgão', ff. 1–7)	MS (Porto)	Organ Instruction Tablature notation	Hudson 1961. <i>MS copy</i> : PortoBPM (M. 42)

Library sigla:	
BragaBP	Braga, Biblioteca Pública
CascaisMBCCG	Cascais, Museu-Bibliotheca Condes de Castro Guimarães
CoimbraBGU	Coimbra, Biblioteca Geral da Universidade
EstorilMMP/CVF	Estoril, Museu da Música Portuguesa/ Casa Verdades de Faria
EvoraBP	Evora, Biblioteca Pública
LisboaBN	Lisboa, Biblioteca Nacional
MadridBN	Madrid, Biblioteca Nacional
MadridBPR	Madrid, Biblioteca del Palacio Real
ParisBN	Paris, Bibliothèque Nationale
PortoBPM	Porto, Biblioteca Pública e Municipal
Vila ViçosaBP	Vila Viçosa, Biblioteca do Palacio

¹ Italics are used for titles of extant prints and manuscripts. Titles of works (now lost) derived from primary bio-bibliographical literature appear in inverted commas.

² References are limited to (i) editions/ facs & primary bibliographical citations; (ii) citations of copies in old inventories; (iii) library sigla for extant copies in Portugal (excepting unique copies in libraries outside Portugal). This list may not be exhaustive and further work and additional copies may be found in Portuguese libraries at a future date.

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